

FCC 312
Main Form

FEDERAL COMMUNICATIONS COMMISSION

APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS

Approved by OMB
5060-0678Est. Avg. Burden Hours
Per Response: 11 Hrs.

FCC Use Only

File Number:

Call Sign:

Fee Number:

APPLICANT INFORMATION

1. Legal Name of Applicant ONSAT NETWORK COMMUNICATIONS, INC.		2. Voice Telephone Number (435) 655-3679	
3. Other Name Used for Doing Business (if any)		4. Fax Telephone Number (435) 655-7676	
5. Mailing Street Address or P.O. Box P.O. Box 8000 136 Heber Ave., Suite 204 ATTENTION: David Molinero		6. City Park City	
		7. State / Country (if not U.S.A.) Utah	8. Zip Code 84098
9. Name of Contact Representative (if other than applicant) Ellen P. Goodman		10. Voice Telephone Number (202) 662-6000	
11. Firm or Company Name Covington & Burling		12. Fax Telephone Number (202) 662-6291	
13. Mailing Street Address or P.O. Box 1201 Pennsylvania Ave., N.W. Washington, D.C. 20044 ATTENTION:		14. City Washington	
		15. State / Country (if not U.S.A.) D.C.	16. Zip Code 20044

CLASSIFICATION OF FILING

17. Place an "X" in the box next to the classification that applies to this filing for both questions a. and b. Mark only one box for 17a and only one box for 17b.			
<input checked="" type="checkbox"/> a1. Earth Station <input type="checkbox"/> a2. Space Station	<input type="checkbox"/> b1. Application for License of New Station	<input type="checkbox"/> b6. Transfer of Control of License or Registration	
	<input type="checkbox"/> b2. Application for Registration of New Domestic Receive-Only Station	<input type="checkbox"/> b7. Notification of Minor Modification	
	<input type="checkbox"/> b3. Amendment to a Pending Application	<input type="checkbox"/> b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite	
	<input type="checkbox"/> b4. Modification of License or Registration	<input type="checkbox"/> b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States	
	<input type="checkbox"/> b5. Assignment of License or Registration	<input checked="" type="checkbox"/> b10. Other (Please Specify): Blanket C-Band Application	
18. If this filing is in reference to an existing station, enter: Call sign of station: E870502		19. If this filing is an amendment to a pending application enter: (a) Date pending application was filed: (b) File number of pending application:	

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Place an "X" in the box(es) next to all that apply.

- ☒ a. Fixed Satellite ☐ c. Radiodetermination Satellite ☐ e. Direct to Home Fixed Satellite
☐ b. Mobile Satellite ☐ d. Earth Exploration Satellite ☐ f. Digital Audio Radio Service ☐ g. Other (please specify)

21. STATUS: Place an "X" in the box next to the applicable status. Mark only one box.

- ☐
- a. Common Carrier
- ☒
- b. Non-Common Carrier

22. If earth station applicant, place an "X" in the box(es) next to all that apply.

- ☒
- a. Using U.S. licensed satellites
- ☐
- b. Using Non-U.S. licensed satellites

23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Mark only one box. Are these facilities:

- ☐ a. Connected to the Public Switched Network ☐ b. Not connected to the Public Switched Network

24. FREQUENCY BAND(S): Place an "X" in the box(es) next to all applicable frequency band(s).

- ☒ a. C-Band (4/6 GHz)

TYPE OF STATION

25. CLASS OF STATION: Place an "X" in the box next to the class of station that applies. Mark only one box.

- ☐
- a. Fixed Earth Station
- ☐
- b. Temporary-Fixed Earth Station
- ☐
- c. 12/14 GHz VSAT Network
- ☐
- d. Mobile Earth Station
- ☐
- e. Space Station
- ☒
- f. Other (Specify)
- A/GS CH VSAT

If space station applicant, go to Question 27.

26. TYPE OF EARTH STATION FACILITY Mark only one box.

- ☒
- a. Transmit/Receive
- ☐
- b. Transmit-Only
- ☐
- c. Receive-Only

PURPOSE OF MODIFICATION OR AMENDMENT

27. The purpose of this proposed modification or amendment is to: Place an "X" in the box(es) next to all that apply.

- a -- authorization to add new emission designator and related service
- b -- authorization to change emission designator and related service
- c -- authorization to increase EIRP and EIRP density
- d -- authorization to replace antenna
- e -- authorization to add antenna
- f -- authorization to relocate fixed station
- g -- authorization to change assigned frequency(ies)
- h -- authorization to add Points of Communication (satellites & countries)
- i -- authorization to change Points of Communication (satellites & countries)
- j -- authorization for facilities for which environmental assessment and radiation hazard reporting is required
- k -- Other (Please Specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 C.F.R. 1.1307?

If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. §§ 1.1308 and 1.1311, as an exhibit to this application.

☐ YES☐ NO

A Radiation Hazard Study must accompany all applications as an exhibit for new transmitting facilities, major modifications, or major amendments. Refer to OET Bulletin 65.

ALIEN OWNERSHIP

29. Is the applicant a foreign government or the representative of any foreign government?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
30. Is the applicant an alien or the representative of an alien?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
31. Is the applicant a corporation organized under the laws of any foreign government?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit, the identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.		

BASIC QUALIFICATIONS

35. Does the applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
36. Has the applicant or any party to this application had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of the circumstances.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
37. Has the applicant, or any party to this application, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of the circumstances.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of the circumstances.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceeding two items? If Yes, attach as an exhibit, an explanation of the circumstances.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, addresses, and citizenship of those stockholders owning of record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.		
41. By checking Yes, the undersigned certifies, that neither the applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. § 25.137, as appropriate. If no, proceed to question 43.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station? _____		

43. Description. (Summarize the nature of the application and the services to be provided).

The proposed network will provide high speed Internet access to rural schools, ISPs, and others. These areas do not currently have affordable Internet access. As a result, an under-served segment of the public will benefit from a timely grant of the license. The nature of the application is further described in Onsat's Petition for Declaratory Order and Petition for Waiver.

Exhibit No.	Identify all exhibits that are attached to this application.
1.	Radiation Hazard Study
2.	Loral Certificate

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Place an "X" in the box next to applicable response.)

☐ a. Individual ☐ b. Unincorporated Association ☐ c. Partnership ☒ d. Corporation ☐ e. Governmental Entity ☐ f. Other (Please specify) _____

45. Typed Name of Person Signing

David Stephens

46. Title of Person Signing

President and CEO

47. Signature

48. Date

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

(Place an "X" in one of the blocks below)

Page 1: Location

☐ License of New Station ☐ Registration of New Domestic Receive-Only Station ☐ Amendment to a Pending Application ☐ Modification of License/Registration ☐ Notification of Minor Modification

B1. Location of Earth Station Site. If temporary-fixed, mobile, or VSAT remote facility, specify area of operation and point of contact. If VSAT hub station, give its location. For VSAT networks attach individual Schedule B, Page 1 sheets for each hub station and each remote station. Individually provide the Location, Points of Communications, and Destination Points for each hub and remote station.

B1a. Station Call Sign E87052		B1b. Site Identifier (HUB, REMOTE, etc.) HUB (shared)		B1c. Telephone Number (801) 575-5965		B1j. Geographic Coordinates Deg. - Min. - Sec. - E/W				B1k. Lat./Lon. Coordinates are:		
B1d. Street Address of Station or Area of Operation 5 Triad Center 55N 300 West				B1e. Name of Contact Person Duane Astin		Lat.		40	46	12	N	<input checked="" type="checkbox"/> NAD-27
						Lon.		111	54	03	W	<input type="checkbox"/> NAD-83
B1f. City Salt Lake City		B1g. County		B1h. State UT		B1i. Zip Code 84110		B1l. Site Elevation (AMSL.) 1,311 meters				

B2. Points of Communications: List the names and orbit locations of all satellites with which this earth station will communicate. The entry "ALSAT" is sufficient to identify the names and locations of all satellite facilities licensed by the U.S. All non-U.S. licensed satellites must be listed individually.

Satellite Name and Orbit Location	Satellite Name and Orbit Location	Satellite Name and Orbit Location
Telestar 5 @ 97° W.L.		

B3. Destination points for communications using non-U.S. licensed satellites. For each non-U.S. licensed satellite facility identified in section B2 above, specify the destination point(s) (countries) where the services will be provided by this earth station via each non-U.S. licensed satellite system. Use additional sheets as needed.

[illegible]

**FEDERAL COMMUNICATIONS COMMISSION
SATELLITE EARTH STATION AUTHORIZATIONS**

Page 2: Antennas

FCC Form 312 - Schedule B: (Technical and Operational Description)

B4. Earth Station Antenna Facilities: Use additional pages as needed.

(a) Site ID*	(b) Antenna ID**	(c) Quantity	(d) Manufacturer	(e) Model	(f) Antenna Size (meters)	(g) Antenna Gain Transmit and/or Receive (____ dBi at ____ GHz)
HUB	HUB A	1	Vertex Dual Offset	VISAT	3.8	43.3 dBi @ 4GHz 46.5 dBi @ 6GHz
Remote 1	Remote A1	various	Prodelin	1374-370	3.7	41.8 dBi @ 4GHz 45 dBi @ 6GHz
Temp Fixed	Remote A2	various	Prodelin	1374-370	3.7	41.8 dBi @ 4GHz 45 dBi @ 6GHz

B5. Antenna Heights and Maximum Power Limits: (The corresponding Antenna ID in tables B4 and B5 applies to the same antenna)

(a) Antenna ID**	(b) Antenna Structure Registration No.	Maximum Antenna Height		(e) Building Height Above Ground Level (meters)***	(f) Maximum Antenna Height Above Rooftop (meters)***	(g) Total Input Power at antenna flange (Watts)	(h) Total EIRP for all carriers (dBW)
		(c) Above Ground Level (meters)	(d) Above Mean Sea Level (meters)				
HUB A	NA	15	1,332	11	4	7.8	55.2
Remote A1	NA	NA	NA	NA	NA	0.6	44
Remote A2	NA	NA	NA	NA	NA	0.6	44

Notes: * If this is an application for a VSAT network, identify the site (Item B1b, Schedule B, Page 1) where each antenna is located. Also include this Site ID on Schedule B, Page 5.

** Identify each antenna in VSAT network or multi-antenna station with a unique identifier, such as HUB, REMOTE1, A1, A2, 10M, 12M, 7M, etc. Use this same antenna ID throughout tables B4, B5, B6, and B7 when referring to the same antenna.

*** Attach sketch of site or exemption. See 47 CFR Part 17.

Page 3: Coordination

[illegible]

** If operating with geostationary satellites, give the orbital arc limits and the associated elevation and azimuth angles. If operating with non-geostationary satellites, give the notation "NON-GEO" for the satellite arc and give the minimum operational elevation angle and the maximum azimuth angle range.

FCC 312 Schedule B Page 3
February, 1998

Page 4: Particulars

[illegible]

• FCC 312, Schedule B Page 4
February, 1998

**FEDERAL COMMUNICATIONS COMMISSION
SATELLITE EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B: (Technical and Operational Description)**

Page 5: Questions

If VSAT Network, provide the SITE-ID (Item B1b) of the station that B8-B13 are in response to (HUB, REMOTE1, etc.): _____

B8. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurements? If NO, provide as an exhibit, a technical analysis showing compliance with two-degree spacing policy.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO												
B9. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	<input type="checkbox"/> YES	<input type="checkbox"/> NO												
B10. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<input type="checkbox"/> YES	<input type="checkbox"/> NO												
Remote Control Point Location:														
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="4" style="padding: 2px;"> B10a. Street Address 5 TRIAD CENTER 55N 300 WEST </td> </tr> <tr> <td style="width:40%; padding: 2px;"> B10b. City SALT LAKE CITY </td> <td style="width:25%; padding: 2px;"> B10c. County </td> <td style="width:20%; padding: 2px;"> B10d. State / Country UTAH </td> <td style="width:15%; padding: 2px;"> B10e. Zip Code 84110 </td> </tr> <tr> <td colspan="2" style="padding: 2px;"> B10f. Telephone Number (801) 575-5965 </td> <td colspan="2" style="padding: 2px;"> B10g. Call Sign of Control Station (if appropriate) E850502 </td> </tr> </table>			B10a. Street Address 5 TRIAD CENTER 55N 300 WEST				B10b. City SALT LAKE CITY	B10c. County	B10d. State / Country UTAH	B10e. Zip Code 84110	B10f. Telephone Number (801) 575-5965		B10g. Call Sign of Control Station (if appropriate) E850502	
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B10f. Telephone Number (801) 575-5965		B10g. Call Sign of Control Station (if appropriate) E850502												
B11. Is frequency coordination required? If YES, attach a frequency coordination report as an exhibit.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO												
B12. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as an exhibit.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO												
B13. FAA Notification - (See 47 CFR Part 17 and 47 CFR Part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO												

25-Aug-99 1:26p

RADIATION HAZARD STUDY

EXHIBIT I - Page 1 of 4

WEINHOUSE ASSOCIATES

8188849823

EXHIBIT I - Page 2 of 4
RADIATION HAZARD STUDY

REGION	RADIATION LEVEL mw/cm ²	HAZARD ASSESSMENT
Far Field, RF=164 m	0.037	Complies with guidelines
Near Field, RN=88.4	0.112	" " "
Transition Region, RT Rn<Rt<Rf	<0.112	" " "
Reflector Surface	0.047	" " "
Between Antenna and Ground	0.0005	" " "
Between Main Reflector and Feed	110	Potential Hazard
CONCLUSION: Based on the above analysis it is concluded that harmful levels of radiation will not exist in regions normally occupied by the public or the earth station's operating personnel. The earth station will be marked with the standard radiation hazard warnings, on the antenna itself, warning personnel to avoid the area in front of the reflector when the transmitter is operational. To ensure compliance with the safety limits, the earth station transmitter will be turned off whenever maintenance and repair personnel are required to work in an area where the radiation level exceeds the level recommended by applicable guidelines. Additionally, the earth station is secured and access is controlled. *		

EXHIBIT I - Page 3 of 4**SUPPORTING CALCULATIONS
REF: FCC BULLETIN #65****A. Far Field:**

$$R_r = \frac{0.6D^2}{\lambda} = \frac{0.6 \times (3.7)^2}{0.05} = 164 \text{ meters}$$

$$S = \frac{PG}{4\pi R^2} = \frac{5 \times 2.51 \times 10^4}{4\pi (164)^2} = 372 \text{ W/m}^2$$

$$S = 0.37 \text{ mW/cm}^2$$

B. Near Field

$$R_n = \frac{D^2}{4\lambda} = \frac{(3.7)^2}{(4) \times (0.05)} = 68.4 \text{ meters}$$

$$S = \frac{16\pi P}{\pi D^2} = \frac{(16) \times (6 \times 10^4)}{\pi (3.7)^2} = 1.12 \text{ W/m}^2$$

$$S = 0.112 \text{ mW/cm}^2$$

C. Transition Region:

Since the transition extends between R_n and R_r , the power density can never exceed the power density in the near field.

$$S = \frac{S(r) \times R(r)}{R}$$

D. Reflector Surface:

Assuming an even distribution of energy over the surface of the dish:

$$S = \frac{P}{\pi^2} = \frac{5 \times 10^3}{\pi (1.85 \times 10^2)^2} = 0.047 \text{ mW/cm}^2$$

EXHIBIT I - Page 4 of 4**E. Between Antenna and Ground:**

Nearest point is more than 1 diameter removed from the center of the main beam.

$$S = \frac{S(\text{reflector surface})}{100} = 0.0005 \text{ mW / cm}^2$$

F. Between Main Reflector and Feed:

The diameter of the feed aperture is 7.62 cm. The highest density will be at the aperture.

$$S = \frac{P}{\pi^2} = \frac{5 \times 10^3}{\pi(3.81)^2} = 110 \text{ mW / cm}^2$$